

Foreign language anxiety levels in Second Life oral interaction*

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Abstract

Virtual worlds have been described as low anxiety environments (Dickey, 2005), where students may feel “shielded” behind their avatars (Rosell-Aguilar, 2005: 432). The aim of this article is to analyse the evolution of the Foreign Language Anxiety (FLA) levels experienced by a group of participants who used the virtual world Second Life for oral interaction (VW Group). The data gathered was compared to that of a group of students who completed similar oral interaction activities in the traditional classroom (CR Group). The quantitative and qualitative data analysed indicates that the FLA levels of the VW Group decreased as weeks went by and that they were lower than those experienced by the CR Group. The anonymity afforded by the VW had a positive effect on some of the students, who reported increased self-confidence and decreased nervousness. However, the students’ comments suggest that this anonymity may wear off once they feel they know their interlocutor. Anonymity may not be the only reason to explain the decrease in FLA.

Keywords: virtual worlds, anxiety, anonymity, oral interaction.

1. Introduction

Learning a foreign language (FL) can be a very exposing task - when we make mistakes, when we cannot understand something or when we fail to make ourselves understood- especially so in oral communication. The affective component plays an important part in the process and Foreign Language Anxiety (FLA) has been described as a very common phenomenon amongst language learners (Horwitz, Horwitz & Cope, 1986). In fact, speaking has been found by researchers to be one of the most anxiety-provoking language activities (Young, 1999). In the classroom environment there are other factors that may aggravate FLA, such as peer competition or the fear of making mistakes in front of fellow students.

In recent years, an increasing number of studies have explored the use of virtual worlds (VWs) for language learning. These environments are characterised by their high graphic realism and communication capabilities, usually integrating chat and voice options. In addition, users are represented by avatars, therefore affording a degree of anonymity that has been said to decrease the anxiety generated by the environment (Dickey, 2005; Warschauer, 1997). VWs make it possible for geographically dispersed users to communicate with each other, allowing for telecollaboration activities to take place between students from different countries.

This article sets out to analyse the evolution of the FLA levels experienced by a group of students who carried out four oral interaction sessions via the VW Second Life (SL) (VW Group). They were compared with those of another group of students who completed similar oral interaction activities in the traditional classroom (CR Group). The following two research hypotheses were tested:

Hypothesis 1: FLA levels in the VW Group will have decreased after four oral interaction sessions with native Spanish speakers in SL.

Hypothesis 2: FLA levels will be lower in the VW Group than in the CR Group after four oral interaction sessions.

2. Literature Review

The importance of affective variables in language learning has long been acknowledged. Research spanning over decades bears witness to the crucial nature of factors such as motivation, anxiety or student attitudes. In fact, Krashen (1981) postulated in his well-known, yet controversial, “affective filter hypothesis” that, in addition to cognitive requirements, certain affective conditions have to exist for language learning to occur. Learners’ so-called “affective filter” should be kept at low levels, which would be determined by their mood, motivation, self-confidence and anxiety (*ibid*).

The term anxiety encompasses various constructs. It may refer to the anxiety that one feels in daily life (“trait anxiety”) or rather to the anxiety associated to specific activities (“state anxiety”) (Spielberger, 1983). However, in the language learning context, a further type of anxiety may be distinguished, that experienced by language learners. Horwitz *et al.* (1986) coined the term “Foreign Language Anxiety” (FLA), which is defined as “a distinct complex of self-perceptions, beliefs, feelings and behaviours related to classroom language learning arising from the uniqueness of the language learning process” (*ibid*: 128). FLA has been researched from a variety of angles for decades (Horwitz *et al.* 1986; MacIntyre & Gardner, 1989; Young, 1991, 1999)¹ and several instruments have been designed to measure it: the French Class Anxiety Scale, included as part of Gardner, Clément, Smythe & Smythe’s Attitudes and Motivation Test Battery (1979), the English Use Anxiety Scale (Clément, Gardner & Smythe, 1977) and MacIntyre & Gardner’s Input, Processing and Output Anxiety Scales (MacIntyre & Gardner, 1994), designed to measure anxiety in different phases of language use. However, Horwitz *et al.*’s Foreign Language Classroom Anxiety Scale (FLCAS) (1986) is the most widely used (Pichette, 2009: 80). It has tested validity and reliable psychometric properties (Horwitz *et al.*, 1986) and it has been translated into Spanish (Rodríguez & Abreu, 2003; Stephenson, 2006), Chinese (Cheng, Horwitz & Shallert, 1999) and Hungarian (Tóth, 2008).

Most of the literature on FLA reports on its negative effects on language learners, in terms of its impact on the learning process and even on assessment results (Hewitt & Stephenson, 2011; MacIntyre & Gardner, 1991; Steinberg & Horwitz, 1986). However, a number of authors claim that a certain degree of FLA can have a positive effect, as it would motivate and challenge students (Brown, 2000; Ehrman & Oxford, 1995). Sparks, Ganschow & Javorsky (2000) reject the notion of FLA altogether, as they believe that the anxiety experienced by language learners stems from potential learning difficulties or even limitations in their L1. This is a controversial thesis that has given rise to an intense debate amongst numerous scholars (Horwitz, 2000; MacIntyre, 1995; Sparks & Ganschow, 1995; Sparks *et al.*, 2000).

FLA seems to be more acute at lower levels of ability, decreasing as students’ proficiency improves (MacIntyre and Gardner, 1991), although a number of studies show that participants learning a FL at an advanced level may also experience high degrees of FLA (Kitano, 2001; Marcos-Llinás & Garau, 2009; Saito & Samimy, 1996).

Any of the skills involved in using a FL may trigger FLA: reading comprehension, although this activity is often referred to as the least anxiety-generating skill (MacIntyre, Noels &

¹ See Horwitz (2010) for a full review of FLA research.

Clément, 1997); writing (Cheng, 2002); listening comprehension (Elkhafaifi, 2005) and speaking. The latter is regarded as the most anxiety-provoking language learning activity by both students (Koch & Terrell, 1991; Young, 1990) and scholars (Pichette, 2009; Young, 1999). MacIntyre *et al.* (1997) argue that this is due to the fact that speaking in a FL somehow engage our “ego”, thus making us feel more exposed and causing anxiety. In fact, a study undertaken by Young (1990), reflecting data from 135 university and 109 secondary school students, concluded that the main FLA triggers are fear of making mistakes, speaking spontaneously in front of other peers and taking part in oral activities in class.

Practitioners must therefore endeavour to create a low-anxiety classroom, where students feel at ease. Computer-Mediated-Communication (CMC) environments may represent an interesting possibility. Numerous scholars have argued that CMC media are perceived by students as low-anxiety environments, whether they are chat applications (Beauvois, 1998; Kern, 1995; Tudini, 2007), audio/videoconferencing programmes (Hampel & Baber, 2003; Wu & Marek, 2009) or virtual worlds (VWs) (Cooke-Plagwitz, 2008; Deutschmann, Panichi & Molka-Danielsen, 2009; Dickey, 2005). In fact, the communication dynamics that come into play in CMC have been widely researched in the fields of psychology and sociology. The anonymity that CMC can provide seems to be of crucial relevance, as it would influence the way in which we communicate. Joinson argues that when interacting anonymously, users are not so concerned about others’ opinions and may show “uninhibited behaviours” (Joinson, 2001: 188). This author concluded in a pioneering study (*ibid.*) that when communicating via email we voluntarily provide more personal information than in face to face conversations or when interacting via the Internet using a webcam. This seems to be due to changes in our self-awareness (*ibid.*). CMC presents a new communication context that triggers different social feedback and attention mechanisms (Kiesler, Zubrow, Moses & Geller, 1985). It may thus be the case that focus is more on communication itself than on our interlocutors or what they are thinking about us.

When it comes to language learning, scholars point out that CMC environments may be beneficial for shy learners who may not participate actively during a class (Cooke-Plagwitz, 2008; Tudini, 2007) and particularly so for FL speaking practice. However, it must be noted that the lack of body language and non-verbal cues –as in audioconferencing platforms or chat applications– might in fact trigger higher anxiety levels in learners (Hampel, 2003, Hampel, Uschi, Hauck & Coleman, 2005: 16), as paralinguistic information reduces ambiguity and improves communication (Kress & van Leeuwen, 2001). It may also result in a feeling of disembodiment, which may be liberating for some users and restricting for others (Hampel *et al.*, 2005). In fact, Childs (2010: 104) argues that some users seem to experience a rejection toward VWs, which this author describes as “VW resistance”.

While a number of studies have concluded that FLA levels decrease when interactions are done via written chat (Arnold, N., 2007; Satar & Özdener, 2008), the research works analysing FLA in FL oral interaction via VWs are few and far between. Reinders and Wattana (2015) concluded in their interview-based study that the language learners communicating via a videogame for 15 weeks reported lower anxiety levels. Wehner, Gump, Downey (2011) presented a study on the effects of VW oral interaction on FLA. These authors compared the FLA levels of 21 Spanish students that interacted orally via a VW with those of another group that completed similar tasks in the traditional classroom. Both groups completed Gardner’s Attitude-Motivation Test Battery (Gardner *et al.*, 1979). The data gathered shows that FLA levels were lower in the VW group than in the classroom group. Jauregi and colleagues

pointed to similar conclusions in their studies (Jauregi & Canto, 2012; Jauregi, de Graaf, & Canto, 2011b) although it must be noted that FLA is not their central focus.

3. Research Methods

3.1. Participants

The participants were 14 students registered on a Spanish undergraduate degree at University of Roehampton (London) at the time of the study. They were enrolled in two different Spanish courses and in this study they have been included in two separate groups. The first one was made up of seven native English speakers, two males and five females between 19 and 20 years old, and their Spanish was at B1 level according to the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001). This group of participants completed four oral interaction sessions in the VW Second Life (SL) with a group of Spanish university students from Universidad de Cádiz. They will be referred to as the VW Group. Table 1 reflects all this information.

Table 1: Information on the VW Group participants.

PARTICIPANT	MALE / FEMALE	AGE	L1
VW1	M	19	English
VW2	F	19	English
VW3	M	19	English
VW4	F	19	English
VW5	F	20	English
VW6	F	19	English
VW7	F	20	English

The second group also consisted of seven students, all females aged between 19 and 21. Their mother tongue was English for five of them and German for the remaining two participants and their Spanish is at B1 level according to the CEFR. This group completed similar oral interaction activities in pairs during the last 30 minutes of four Spanish classes on the same topics used for the VW Group. They will be referred to as the Classroom Group (CR Group). See Table 2.

Table 2: Information on the CR Group participants.

PARTICIPANTS	MALE / FEMALE	AGE	L1
CR1	F	21	German
CR2	F	19	English
CR3	F	19	English
CR4	F	19	English
CR5	F	21	German
CR6	F	20	English
CR7	F	19	English

Finally, 68 Spanish students also registered at the same institution participated in the preparatory stage of this study by completing Horwitz *et al.*'s (1986) FLCAS. This data was used as a reference to compare the FLA scores obtained by the participants in the VW Group and CR Group, as described in section 3.4.

3.2. Learning environment and experimental activities

The VW Group carried out four interaction activities in SL. They received SL training and remote technical checks prior to the start of the study. They were randomly assigned a Spanish native-speaking partner to complete the activities. The tandem format was applied: the session time was equally divided between Spanish and English practice. The participants completed one activity every 7-10 days from their respective homes at a time and date agreed with their allocated partners.

The activities proposed for the study took place in “Roehampton Virtual Campus”, a private area owned by University of Roehampton (London) in SL. A total of 15 “chatting spots” adapted for each activity were installed in the island (see Figures 1-6).

Figure 1: Bungalow islands.



Figure 2: House by the lake.



Figure 3: Hut village.



Figure 4: Tree house and café.



Figure 5: Café, 1st floor.



Figure 6: Café, rooftop.



From a technical point of view, the activities were designed keeping requirements and costs to a minimum. The format was simple: in each “chatting spot” students could find screens presenting questions to guide the conversation (see Figure 7). Two additional screens showed videos related to the topic of discussion.

Figure 7: Chatting spot with a video screen (to the left) and a questions screen (to the right).



Figure 8: Screens installed in one of the chatting spots.



The activity topics were selected according to two criteria -first of all, that they could be of interest to the students and, secondly, that they fitted in the curriculum followed by both institutions.

Activity no. 1: National Stereotypes

This activity was aimed at discussing clichés about the Spanish and English nationalities and whether they are true or false.

Activity no. 2: Off to the Cinema

A virtual cinema was created for this activity (Figure 9), where students watched English and Spanish trailers of films and TV series and compared their preferences.

Activity no. 3: The Dangers of Social Networks

The students exchanged views about the safety of social networks and about the examples presented in an extract of the Spanish news.

Activity no. 4: Travelling around SL

The participants took their partners outside “Roehampton Virtual Campus” on a journey across SL areas related to their culture. This activity was designed by the NIFLAR team (Jauregi *et al*, 2011b) and permission was obtained to use it on this occasion. A map showing different SL real locations was distributed to all students² (Figure 10).

Figure 9: Virtual Cinema.



Figure 10: SL City Map.



² New Business Horizons Website: <http://www.nbhorizons.com/world.htm>.

According to the activity classification proposed by Deutschmann & Panichi (2009) specifically for SL, three of the activities designed for this study exploit mainly the social/communicative/cognitive dimension of SL. Activity no. 4 makes use of the spatial/physical dimension of SL. As discussed by Jauregi, Canto, de Graaf, Koenraad & Moonen (2011a: 97), activities in which the VW plays a central role generate less oral interaction. This is why only one of the four sessions was designed in that format.

Finally, it must be noted that a six-month piloting period took place prior to the main phase of the study, involving technical checks at both institutions and two pilot sessions to test the activities and the data collection instruments. The pilot participants were not involved in the main phase of the study in an attempt to preserve the VW “novelty effect” (Jauregi *et al.*, 2012: 12).

3.3. Instrumentation

A mixed-methods design with quantitative and qualitative data was applied. In addition, following Daly (1991) and McCroskey (1984), who argue that self-reported measures are the most valid indicators of anxiety, a combination of questionnaires and open-ended questions were used for this study.

Demographics questionnaire

This questionnaire (Annex no. 1) consisted of 16 questions on basic background information about the Internet, social media and VW usage. It was completed electronically via Kwiksveys³ prior to the first session.

Foreign Language Anxiety Scale (FLCAS) (Horwitz et al., 1986)

Horwitz *et al.*'s FLCAS contains 33 items that subjects must rate on a 5-point Likert scale from “strongly agree” to “strongly disagree”. Items relate to anxiety or communicative apprehension, test anxiety and fear of negative evaluation. The original version in English was used. This questionnaire was completed on paper by all participants prior to the first session.

Reduced FLCAS

Horwitz *et al.*'s FLCAS (1986) was the instrument selected to measure FLA after every interaction session. This test was deemed more appropriate for this specific context than other existing questionnaires, which often refer to the FLA experienced in daily life activities that were of no relevance in this instance. A reduced version of the original questionnaire was produced following Arnold, J. (2007), Charle (2005), Kitano (2001) and McNeil (2014), who also used adapted versions of the FLCAS. Items referred to test anxiety and to classroom situations were omitted, as well as two items relating to hypothetical interactions with native speakers, as this was indeed the context in which the participants of the VW Group would be using their FL. Finally, the questionnaire was operationalised by replacing all mentions to “FL” with “Spanish” and, just in the version circulated to the VW Group, mentions of the “the language class” were changed for “the language exchange”. The final questionnaire contained only seven items of the original FLCAS (items 1, 2, 9, 12, 16, 18 and 31) in an attempt to avoid respondent fatigue.

All participants completed this test after every interaction session. Students in the CR Group completed it on paper at the end of every class. The VW Group was instructed to respond to

³ Kwiksveys: www.kwikveys.com.

this questionnaire orally and to record themselves in an audio file to allow for more elaborate answers. They were also asked to provide an oral summary in the target language about the session that they had just completed. This data has not been used for analysis as it was aimed mainly at controlling that students had completed the activities. Students in the VW Group were contacted by their tutor right after the session and were asked to send back their recordings immediately.

Open-ended questions

The VW Group answered a brief questionnaire consisting of three open-ended questions (Annex no. 2) about how they felt during the VW session. The items were selected from the pilot phase questionnaires. Questions were kept open, as recommended by Campbell, McNamara & Gilroy to allow participants to elaborate their answers freely, perhaps in ways that the researcher might not have envisaged (2004: 99). The participants in the VW Group were asked to record their answers after every session following the same procedure described above.

3.4. Coding and analysis

All data was anonymised assigning an alphanumeric sequence to each of the participants. The statements from the FLCAS and reduced FLCAS were coded on a scale of 1-5. In regular statements (i.e. “I never feel quite sure of myself when I am speaking in my Spanish class”), “strongly agree” was given a FLA score of 5, therefore reflecting high FLA, and “strongly disagree” was given a score of 1. Reverse statements (i.e. “I feel confident when I speak in the language class”) were scored in the opposite way. The FLCAS scores were computed following these guidelines and transferred manually to an Excel file.

The answers to the open-ended questionnaire were transcribed using the speech recognition software Dragon Naturally Speaking. The final transcript is 3,900 words long and it has not been included as an annex due to space limitations. A qualitative data analysis was performed by identifying different coding categories (Bogdan & Biklen, 2006). A statistical analysis was carried out on the quantitative data.

All participants were classified as high, average or low FLA. Their FLCAS scores, obtained prior to the first session, were compared to those of the 68 Spanish students also registered at University of Roehampton (London). Following Sparks & Ganschow (2007), scores higher than two thirds standard deviations above the FLA mean⁴ were classified as high FLA; scores between $+.67$ and $-.67$ (two thirds) standard deviations were classified as average FLA and those scoring more than two thirds standard deviations below the mean were classified as low FLA.

4. Research Results

Hypothesis 1: FLA levels in the VW Group will have decreased after four oral interaction sessions with native Spanish speakers in SL.

Table 3 shows the FLA scores per participant per session for the VW Group and the students' FLA profile (high, average or low) according to their FLCAS scores prior to the start of the sessions.

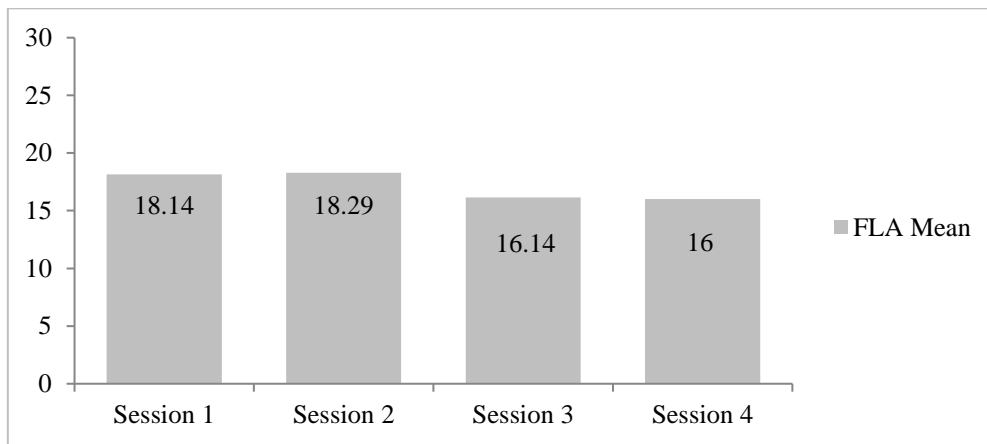
⁴ The FLA mean of the scores obtained by the 68 students is 90.22 (SD=23.66).

Table 3: FLA levels per participant and per session (VW Group).

FLA PROFILE	PARTICIPANT	FLA SESSION 1	FLA SESSION 2	FLA SESSION 3	FLA SESSION 4
HIGH FLA	VW7	32	30	27	28
AVERAGE FLA	VW2	19	24	22	22
	VW3	18	15	15	15
	VW5	18	16	13	14
	VW6	14	14	14	14
	VW1	14	15	12	12
LOW FLA	VW4	12	14	10	7

The mean FLA scores per session, shown in Figure 11, were calculated for comparison purposes.

Figure 11: Mean FLA scores per session (VW group).

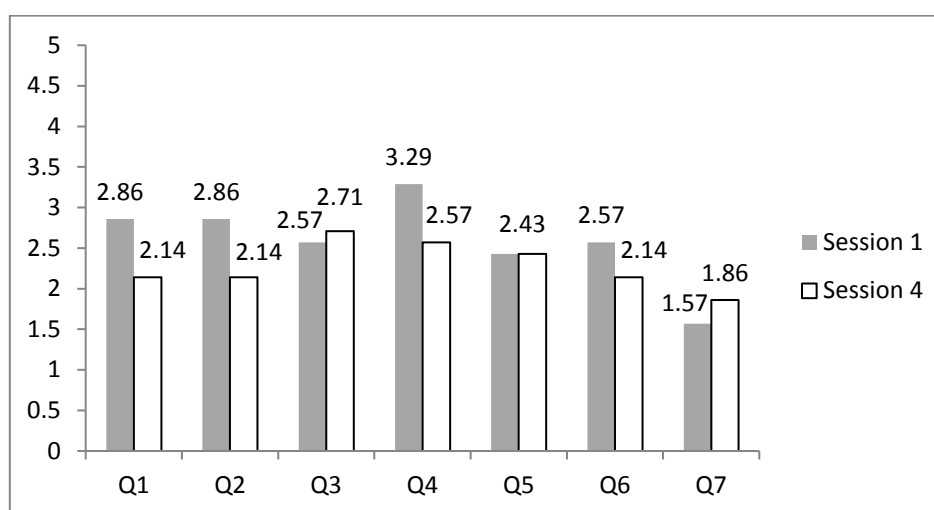


The normality of the distribution of the scores was checked using the Shapiro-Wilk test, suited for small groups (Field, 2009). Considering the skewness and kurtosis statistics ($Skew = 1.82$; $Kurt = 3.91$) obtained as well as the small number of subjects ($N = 7$), non-parametric tests were used for weekly data comparison as recommended by Field (2009).

Selected Friedman's ANOVA test for dependent data indicated statistically significant differences between sessions [$F(3) = 9.11$; $p = .028$]. Post-hoc tests showed statistically significant differences ($p = .038$) between the scores registered in Session 2 ($N = 7$; $M = 18.29$; $SD = 6.24$; $Mdn = 15.00$) and Session 3 ($N = 7$; $M = 16.14$; $SD = 6.09$; $Mdn = 14.00$). On the borderline of statistical trend were the differences between Session 1 ($N = 7$; $M = 18.14$; $SD = 6.64$; $Mdn = 18.00$) and Session 3 ($p = 0.062$), Session 1 and Session 4 ($p = 0.098$) and between Session 4 ($N = 7$; $M = 16.00$; $SD = 6.90$; $Mdn = 14.00$) and Session 2 ($p = 0.062$). Results significant at the trend would certainly confirm the hypothesis with a greater research sample.

A question-specific analysis reflects score reductions in questions 1, 2 and 4, which refer to self-confidence, fear of making mistakes and anxiety. Questions 3 and 7, which refer to spontaneous oral expression and fear of negative evaluation respectively, registered a slight increase in scores. Figure 12 contains this data:

Figure 12: Mean FLA scores per question in Sessions 1 and 4 (VW Group).



According to the qualitative data gathered, five of the participants report to have felt an increase in self-confidence as weeks went by (VW1, VW2, VW3, VW5, VW7). Below are some of their comments:

VW1 (Session 3):

“I found that, as I have been doing SL more and more, I’ve kind of started to feel a lot more comfortable with doing it, so I was quite relaxed doing it today.”

VW3 (Session 3):

“I’ve noticed I feel a lot more confident with speaking in SL than I have done over the past few weeks, as it gives me the chance to utilise my Spanish skills and build my confidence in terms of speaking Spanish, not just virtually but when I use it in front of, in a face-to-face sort of method, so to speak.”

VW5 (Session 4):

“My confidence levels of speaking language have gone up a lot more than I thought they were going to and I feel less silly about making mistakes.”

Hypothesis 2: FLA levels will be lower in the VW Group than in the CR Group after four oral interaction sessions.

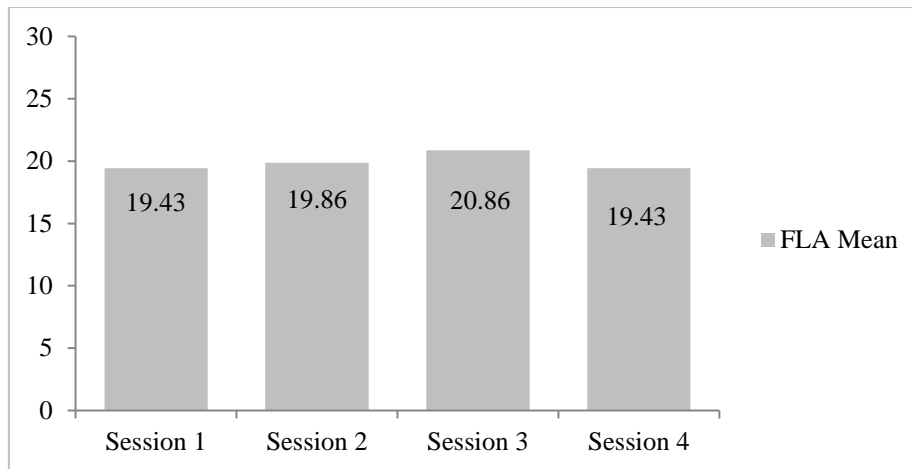
Table 4 shows the FLA scores per participant per session for the CR Group as well as the students’ FLA profile (high, average or low) according to their FLCAS scores prior to the start of the sessions.

Table 4: FLA levels per participant and per session (CR Group).

	PARTICIPANT	FLA SESSION 1	FLA SESSION 2	FLA SESSION 3	FLA SESSION 4
HIGH FLA	CR6	27	28	27	28
	CR7	26	27	25	25
AVERAGE FLA	CR2	23	20	24	23
	CR3	27	23	24	23
	CR4	17	15	15	13
LOW FLA	CR5	7	17	21	15
	CR1	9	9	10	9

The mean FLA scores per session for the CR Group, shown in Figure 13, were calculated for comparison purposes.

Figure 13: Mean FLA scores per session (CR Group).



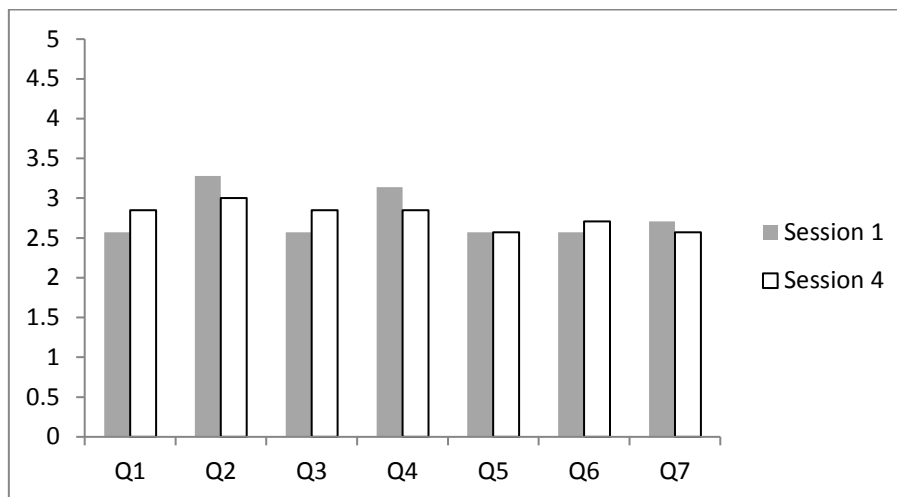
Calculated descriptive characteristics for variables and statistics for skewness and kurtosis indicated that the distribution of the data was not always consistent with the normal distribution. Selected Friedman's ANOVA test for dependent data indicated lack of statistically differences between sessions [$F(3) = 2.83$; $p = .423$]. Figure 13 does, however, show a slight FLA increase in Session 3, although the analysis performed indicates that it is not statistically significant. This means that FLA levels for the CR Group remained unchanged over the course of the four sessions.

A question-specific analysis reflects score reductions in questions 2, 4 and 7, which refer to self-confidence and anxiety. Questions 1, 3 and 6, which refer to fear of making mistakes, extreme nervousness and fear of negative evaluation respectively, registered a slight increase in scores. Table 5 contains this data and Figure 14 illustrates the differences:

Table 5: Mean FLA scores per question in Sessions 1 and 4 (CR Group).

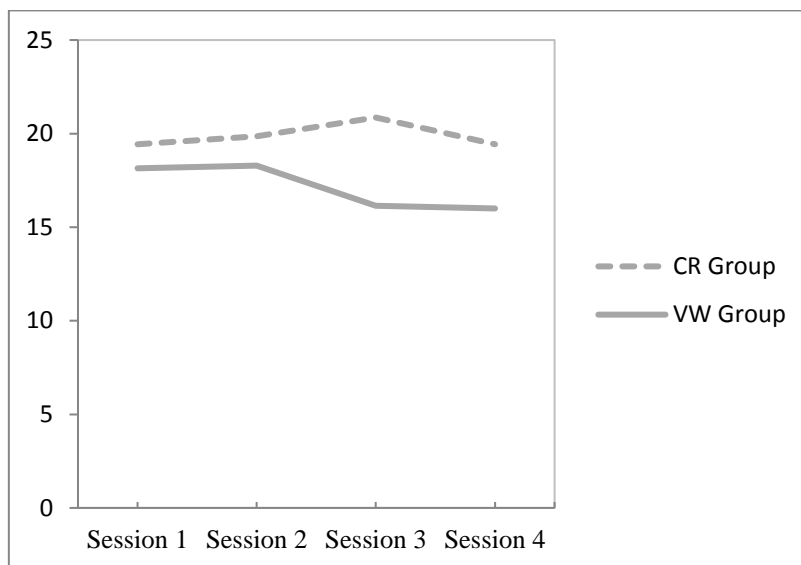
	FLA M SESSION 1	FLA M SESSION 4
Q1	2.57	2.85
Q2	3.28	3
Q3	2.57	2.85
Q4	3.14	2.85
Q5	2.57	2.57
Q6	2.57	2.71
Q7	2.71	2.57

Figure 14: Mean FLA scores per question in Sessions 1 and 4 (CR Group).



The chart in Figure 15 presents a comparison of FLA levels across weeks between the CR Group and the VW Group.

Figure 15: Mean FLA scores per session for CR Group and VW Group.



In terms of the qualitative data provided by the VW Group for the analysis of the second hypothesis, five of the participants stated that not being physically present made them feel more at ease (VW1, VW2, VW5, VW6, VW7). For one of those five participants the difference was said to be only subtle. Below are some of the comments provided:

VW1 (Session 2):

“The fact that I wasn’t physically present made it less likely for me to be nervous and slightly more confident when I was speaking but I don’t think it has that much of an impact.”

VW2 (Session 1):

“I think being on the computer makes you a bit less nervous because they can't really see how you're reacting, your facial expressions and things like that, so I think it may be better that you do it on the computer, especially if you don't know the person you're talking to.”

VW6 (Session 4): “I think not being physically present in the language exchange is a bit better because you feel a lot more relaxed compared to if you were face to face or over webcam.”

However, three of the participants stated, as weeks progressed, that the anonymity provided by the environment no longer made a difference, as they felt they knew their interlocutors.

VW5 (Session 1): “I think it was a little bit easier speaking into a computer than it was being physically present (...) I think it did have an impact on how nervous I was only because I didn’t know him beforehand.”

VW6 (Session 2): “Not being physically present in the language exchange didn't really have any impact on how nervous or confident I was because I've spoken to her before so I didn't really feel nervous this time.”

VW7 (Session 3): “The fact that I wasn’t physically present with the person, didn’t really matter to me ‘cause I know who she is now and I’ve talked to her a couple of times, so this really didn’t matter to me and it didn’t affect my nerves or confidence.”

One of the participants (VW3) stated that the lack of physical presence did not have any impact at all and finally, in one case (VW4) this anonymity was perceived as something negative, as it prevented the student from putting their personality across. None of the participants claimed to be worried about making mistakes. Below is one of the comments provided.

VW4 (Session 1):

“I really don’t like SL. It feels a bit like you’re having a cyber-relationship and it’s a bit strange. It’s ok speaking but then it was kind of difficult as well because there was a delay because of the microphone and it’s kind of awkward talking to somebody you don’t know without even being able to see them. I don’t like it, I like to be face-to-face to people, because I feel like I’m more confident, I’m just more bubbly and I can get my personality across in real life. It’s harder over the Internet cause you don’t know if they are taking your sense of humour and stuff the right way.”

5. Discussion

The analysis of the data described reveals that mean FLA levels decreased markedly for the VW Group as weeks went by. This trend was observed in five of the seven participants from all FLA levels (high, average and low FLA). The decline in FLA scores seems to come from answers to questions related to self-confidence, fear of making mistakes and anxiety, which might indicate that VWs are indeed perceived by users as safe environments as suggested in the literature (Cooke-Plagwitz, 2008; Deutschmann *et al.*, 2009; Dickey, 2005). These results are supported by the comments provided by most of the participants in which they report feeling more confident interacting via the VW. This finding would therefore confirm the first research hypothesis. It should be noted however that scores obtained in questions related to spontaneous oral expression and fear of negative evaluation experienced a slight increase. Spontaneous oral expression is described by Young (1990) as one of the main FLA triggers. It would not be surprising to find increased scores in this item, particularly as students did not prepare for the sessions in advance. Further research into fear of negative evaluation, the second item that recorded an increase in scores, will be required. If participants felt truly “shielded” behind their avatars, they would probably be less likely to experience fear of negative evaluation. This may indicate that the anonymity afforded by VWs only plays a role in an initial contact with an interlocutor who is unknown to us and it would fade as a relationship develops and familiarity between interlocutors increases.

The analysis performed on the data available for the second hypothesis indicates that the FLA levels recorded for the VW Group were lower after four sessions than those in the CR Group, where scores remained unchanged. This finding is in line with Wehner *et al.* (2011). The VW Group and the CR Group present comparable profiles according to the data gathered via the complete FLCAS circulated before the start of the activities. The VW Group scored a mean of 86.86 points and the CR Group scored 86. A student-by-student analysis shows that both groups present an almost identical spread across FLA profiles (low, average, high), with the majority of them being classified as average FLA. However, in Session 1, FLA levels were slightly higher in the CR Group (19.43) than in the VW Group (18.14). This is surprising, as the VW Group was being faced with a new interaction context, which would justify higher FLA levels, whereas the CR Group was in a regular language class. Further research will be required to shed light on which factors might be responsible for this.

A close analysis of the weekly scores on Session 1 and Session 4 reveals that the participants in the CR Group reported decreased self-confidence and increased anxiety, therefore reflecting a typical scenario of the FLA often experienced in the classroom context. On the other hand, improved scores on fear of making mistakes, fear of negative evaluation and extreme nervousness were recorded. Further work, possibly including student interviews, will be required to fully understand these differences in scores.

The analysis of the qualitative data gathered regarding the potential effect of anonymity showed that five of the participants in the VW Group claimed to feel more confident because they knew they were not being seen by their exchange partners. However, as they completed more sessions, anonymity was no longer responsible for this effect. When asked if the lack of physical presence made them feel more confident or nervous, they answered that it did not have any effect because they already knew their interlocutors. This might suggest once again that being “shielded” behind an avatar provides a valuable sense of security to interlocutors initially, when they do not know each other, but it wears off as familiarity increases.

Finally, the qualitative data gathered also supports Hampel *et al.*’s conclusion that VW interaction may cause a feeling of disembodiment that may be liberating for some users and restricting for others (2005). In the current study, a negative effect of disembodiment was reported by one of the participants (VW4), whose comments also confirm Child’s notion of resistance to VWs (2010).

6. Conclusions

As discussed in this article, CMC media have been said to be low-anxiety environments that may be particularly suitable for language learning. Satar & Özdener (2008), Roed (2003) and Arnold, N. (2007) showed that FLA levels decrease after FL interaction via chat applications. Not many studies have shown this when it comes to VWs, which is what this paper set out to analyse. The results obtained for Hypothesis 1 indicate that FLA levels decrease after four weeks of VW oral interaction. It also confirms that FLA levels are lower in a group of students that interacts orally via a VW than those of a group who interacts in the traditional classroom (Hypothesis 2).

The conclusions obtained from the qualitative data also shed light on the reasons that might influence lower FLA levels in a VW and on the effects of anonymity. Numerous scholars have hypothesised about how users may feel “shielded” behind their avatars, which may help reduce their anxiety levels. Yet, this study shows indications that this effect may only occur at the outset, when users do not know each other, therefore wearing off as familiarity between

them increases. At that point, the benefits linked to this feeling of familiarity towards their interlocutor seem to override those of not being seen, of being shielded behind an avatar. Users may feel more at ease simply because they are interacting with someone who seems known to them. VWs thus offer a much-needed gentle beginning that enables learners to build up a gradual familiarity with their interlocutor. This was the experience observed in this particular study, where the tandem approach was used. It would be interesting to ascertain if the same effect occurs when interactions are carried out with non-native speakers of the target language.

7. Limitations and future research

The small sample of participants used in this study is its main limitation. Although most of the findings yielded are backed by statistically significant data, it is not the case for the question-specific analysis. Further research with larger samples will therefore be required to confirm some of the conclusions obtained in this study.

Future research on how specific FLA student profiles (low, average, high) respond to the use of VWs for oral interaction would be desirable.

8. Bibliography

- Arnold, J. (2007) Self-concept and the Affective Domain in Language Learning. In Rubio, F. (ed.), *Self-esteem and Foreign Language Learning*. Newcastle: Cambridge Scholars Publishing.
- Arnold, N. (2007) Reducing Foreign Language Communication Apprehension with Computer-Mediated Communication: a Preliminary Study. *System*, 35: 468-486.
- Beauvois, M. H. (1998) Conversations in Slow Motion: Computer-mediated Communication in the Foreign Language Classroom. *The Canadian Modern Language Review*, 54(2): 198-217.
- Bogdan, R. C. & Biklen, S. K. (2006). *Qualitative research for education: An introduction to theories and methods*. Boston: Pearson Education Group.
- Brown, H. D. (2000) *Principles of Language Learning and Teaching*. New York: Longman.
- Campbell, A., McNamara, O & Gilroy, P. (2004) *Practitioner research and professional development in education*. London: SAGE Publications Ltd.
- Charle Poza, M. I. (2005) *The Effects of Asynchronous Computer Voice Conferencing on Learners' Anxiety when Speaking a Foreign Language*. West Virginia University, unpublished PhD thesis.
- Cheng, Y. (2002) Factors Associated with Foreign Language Writing Anxiety. *Foreign Langue Annals*, 35: 647-656.
- Cheng, Y., Horwitz, E. & Shallert D. L. (1999) Language Anxiety: Differentiating Writing and Speaking Components. *Language Learning*, 49(3): 417-446.
- Childs, M. (2010) *Learners' Experience of Presence in Virtual Worlds*. University of Warwick, unpublished PhD thesis.
- Clément, R., Gardner, R. C. & Smythe, P. C. (1977) Motivational Variables in Second Language Acquisition: A Study of Francophones Learning English. *Canadian Journal of Behavioural Science*, 9: 123-133.
- Cooke-Plagwitz, J. (2008) New Directions in CALL: An Objective Introduction to *Second Life*. *CALICO Journal*, 25(3): 547-557.
- Council of Europe. (2001) *Common European Framework of Reference for Languages: learning, teaching, assessment*. Strasbourg: Language Policy

- Daly, J. (1991) Understanding communication apprehension: An introduction for language educators. In Horwitz, E. K. & Young, D. J. (eds.), *Language Anxiety: From Theory and Research to Classroom Implications*. Englewood Cliffs: Prentice Hall.
- Deutschmann, M. & Panichi, L. (2009) Instructional Design, Teacher Practice and Learner Autonomy. In Molka-Danielsen, J. & Deutschmann, M. (eds.), *Learning and Teaching in the Virtual World of Second Life*. Oslo: Tapir Academic Press.
- Deutschmann, M., Panichi, L., Molka-Danielsen, J. (2009) Designing Oral Participation in Second Life –A Comparative Study of Two Language Proficiency Courses. *ReCALL*, 21: 206-226.
- Dickey, M. D. (2005) Three-dimensional Virtual Worlds and Distance Learning: Two Case Studies of Active Worlds as a Medium for Distance education. *British Journal of Educational Technology*, 36: 439-451.
- Ehrman, M. E. & Oxford, R. (1995) Cognition Plus: Correlates of Language Learning Success. *The Modern Language Journal*, 79: 67-89.
- Elkhafaifi, H. (2005) Listening Comprehension and Anxiety in the Arabic Language Classroom. *The Modern Language Journal*, 89(2): 206-220.
- Field, A. (2009) *Discovering Statistics using IBM SPSS Statistics*. London: SAGE.
- Gardner, R. C., Clément, R., Smythe, P. C., Smythe, C. L. (1979) Attitudes and Motivation Test Battery, Revised Manual. *Research Bulletin*, 15.
- Hampel, R. (2003) Theoretical Perspectives and New Practices in Audio-graphic Conferencing for Language Learning. *ReCALL*, 15(1): 21-35.
- Hampel, R. & Baber, E. (2003) Using Internet Audio-graphic and Video Conferencing for Language Teaching and Learning. In Felix, U. (ed.), *Language Learning Online. Towards Best Practice*. Lise: Swets & Zeitlinger.
- Hampel, R., Uschi, F. Hauck, M., Coleman, J. A. (2005) Complexities of Learning and Teaching Languages in a Real-time Audiographic Environment. *German as a Foreign Language Journal*, 3: 1-30.
- Hewitt, E. & Stephenson, J. (2011) Foreign Language Anxiety and Oral Exam Performance: A Replication of Phillip's *MLJ* Study. *The Modern Language Journal*, 96(2): 170-189.
- Horwitz, E. K. (2000) It Ain't Over 'til it's Over: on Foreign Language Anxiety, First Language Deficits, and the Confounding of Variables. *The Modern Language Journal*, 84(2): 256-259.
- Horwitz, E. K., Horwitz, M. B., Cope, J. (1986) Foreign Language Classroom Anxiety. *The Modern Language Journal*, 70: 125-132.
- Jauregi, K. & Canto, S. (2012) Enhancing Meaningful Oral Interaction in Second Life. *Procedia- Social and Behavioural Sciences*, 34: 111-115.
- Jauregi, K., Canto, S., de Graaf, R., Koenraad, T. & Moonen, M. (2011a) Verbal Interaction in Second Life: Towards a Pedagogic Framework for Task Design. *Computer Assisted Language Learning*, 24(1): 77-101.
- Jauregi, K., de Graaf, R., Canto, S. (2011b) Integrating Cross-cultural Interaction through Video-communication and Virtual Worlds in Foreign Language Teaching Programmes: Burden or Added Value. In Gimeno, A. (ed.), *The EUROCALL Review. Proceedings of the EUROCALL 2011 Conference* 20(1).
- Jauregi, K., de Graaf, R., van den Bergh, H. & Kriz, M. (2012) Native/non-native Speaker Interactions Through Video-web Communication: a Clue for Enhancing Motivation? *Computer Assisted Language Learning*, 25(1): 1-19.
- Joinson, A. (2001) Self-disclosure in Computer-mediated Communication: The Role of Self-awareness and Visual Anonymity. *European Journal of Social Psychology*, 31: 177-192.

- Kern, R. G. (1995) Restructuring Classroom Interaction with Networked Computers: Effects on Quantity and Characteristics of Language Production. *The Modern Language Journal*, 79(4): 457-476.
- Kiesler, S., Zubrow, D., Moses, A. M., Geller, V. (1985) Affect in Computer-Mediated Communication: An Experiment in Synchronous Terminal-to-terminal Discussion. *Human-Computer Interaction*, 1: 77-104.
- Kitano, K. (2001) Anxiety in the College Japanese Language Classroom. *The Modern Language Journal*, 85: 549-566.
- Koch, A. S. & Terrell, T. D. (1991) Affective Reactions of Foreign Language Students to Natural Approach Activities and Teaching Techniques. In Horwitz, D. K. & Young, D. J. (eds.), *Language Anxiety: From Theory and Practice to Classroom Implications*. Upper Saddle River: Prentice-Hall.
- Krashen, S. D. (1981) *Second Language Acquisition and Second Language Learning*. Oxford: Pergamon.
- Kress, G. & van Leeuwen, T. (2001) *Multimodal Discourse: The Modes and Media of Contemporary Communication*. London: Arnold.
- MacIntyre, P. D. (1995) How Does Anxiety Affect Second Language Learning? A Reply to Sparks and Ganschow. *The Modern Language Journal*, 79(1): 90-99.
- MacIntyre, P. D. & Gardner, R. C. (1989) Anxiety and Second-Language Learning: Toward a Theoretical Clarification. *Language Learning*, 39: 251-272.
- MacIntyre, P. D. & Gardner, R. C. (1991) Methods and Results in the Study of Anxiety and Language Learning: A Review of the Literature. *Language Learning*, 41(1): 85-117.
- MacIntyre, P. D. & Gardner, R. C. (1994) The Subtle Effects of Language Anxiety on Cognitive Processing in the Second Language. *Language Learning*, 44: 283-305.
- MacIntyre, P. D., Noels, K. A., Clément, R. (1997) Biases in Self Ratings of Second Language Proficiency: the Role of Language Anxiety. *Language Learning*, 47(2): 265-287.
- Marcos-Llinás, M. & Garau, M. J. (2009) Effects of Language Anxiety on Three Proficiency-Level Courses of Spanish as a Foreign Language. *Foreign Language Annals*, 42(1): 94-111.
- McCroskey, J. C. (1984) The communication apprehension perspective. In Daly, J. A. & McCroskey, J. C. (eds.), *Avoiding communication*. Beverly Hills: Sage Publications.
- McNeil, L. (2014) Ecological affordance and anxiety in an oral asynchronous computer-mediated environment. *Language Learning & Technology*, 18(1): 142-159.
- Pichette, F. (2009) Second Language Anxiety and Distance Language Learning. *Foreign Language Annals*, 42(1): 77-93.
- Reinders, H. & Wattana, S. (2015) Affect and Willingness to Communicate in Digital Game-based Learning. *ReCALL*, 27(1): 38-57.
- Rodríguez, M. & Abreu, O. (2003) The Stability of General Foreign Language Classroom Anxiety across English and French. *The Modern Language Journal*, 87: 365-374.
- Roed, J. (2003) Language Learner Behaviour in a Virtual Environment. *Computer-assisted Language Learning*, 16(2-3): 155-172.
- Rosell-Aguilar, F. (2005) Task Design for Audiographic Conferencing: Promoting Beginner Oral Interaction in Distance Language Learning. *Computer-Assisted Language Learning*, 18(5).
- Saito, Y. & Samimy, K. K. (1996) Foreign Language Anxiety and Language Performance: a Study of Learner Anxiety in Beginning, Intermediate, and Advanced-level College Students of Japanese. *Foreign Language Annals*, 29(2): 239-249.

- Satar, H. M. & Özdenler, N. (2008) The Effects of Synchronous CMC on Speaking Proficiency and Anxiety: Text Versus Voice Chat. *The Modern Language Journal*, 92(4): 595-613.
- Sparks, R. L. & Ganschow, L. (1995) A Strong Inference Approach to Causal Factors in Foreign Language Learning: A Response to MacIntyre. *The Modern Language Journal*, 79(2): 235-244.
- Sparks, R. & Ganschow, L. (2007) Is the Foreign Language Classroom Anxiety Scale Measuring Anxiety or Language Skills?. *Foreign Language Annals*, 40(2): 260-287.
- Sparks, R., Ganschow, L., Javorsky, J. (2000) Déjà Vu All Over Again: A Response to Saito, Horwitz, and Garza. *The Modern Language Journal*, 84: 251-255.
- Spielberger, C. D. (1983) *Manual for the State-Trait Anxiety Inventory (Form Y)*. Palo Alto: Consulting Psychologists Press.
- Steinberg, F. S. & Horwitz, E. K. (1986) The Effect of Induced Anxiety on the Denotative and Interpretive Content of Second Language Speech. *TESOL Quarterly*, 20(1): 131-136.
- Stephenson, J. T. (2006) *Anxiety in Learning English as a Foreign Language: Its Associations with Student Variables, with Overall Proficiency, and with Performance on an Oral Test*. Universidad de Granada, unpublished PhD thesis.
- Tóth, Z. (2008) A Foreign Language Anxiety Scale for Hungarian Learners of English. *Working Papers in Language Pedagogy*, 2: 55-78.
- Tudini, V. (2007) Negotiation and Intercultural Learning in Italian Native Speaker Chat Rooms. *The Modern Language Journal*, 91(4): 577-601.
- Warschauer, M. (1997) Computer-mediated Collaborative Learning: Theory and Practice. *The Modern Language Journal*, 81(4): 470-481.
- Wehner, A., Gump, A. W., Downey, S. (2011) The Effects of *Second Life* on the Motivation of Undergraduate Students Learning a Foreign Language. *Computer-Assisted Language Learning*, 24(3): 277-289.
- Wu, W. & Marek, M. (2009) The Impact of Teleconferencing with Native English Speakers on English Learning by Taiwanese Students. *International Journal on E-learning*, 8(1): 107-126.
- Young, D. J. (1990) An Investigation of Students' Perspectives on Anxiety and Speaking. *Foreign Language Annals*, 23(6): 539-553.
- Young, D. J. (1991) Creating a Low-Anxiety Classroom Environment: What Does Language Anxiety Research Suggest? *The Modern Language Journal*, 75(4).
- Young, D. J. (1999) *Affect in Foreign Language and Second Language Learning. A Practical Guide to Creating a Low-anxiety Classroom Atmosphere*. Boston: McGraw-Hill.

Annex no. 1 Demographics questionnaire

Please answer the following questions.

1. Please enter your initials.
2. Please enter your date of birth.
3. Please specify if you are male or female.
4. How long have you studied Spanish for? Please specify if it was at school or university level.
5. How many hours per day do you use your computer/laptop/notebook for leisure?
6. Do you use social networks such as Facebook, MSN, Skype, etc.?
7. How often do you use those sites?
8. Do you use Facebook, MSN, Skype to chat with your friends?
9. How often?
10. Do you use the Blackberry or iPhone Messenger Service?
11. Do you use Skype to speak (not chat) with your friends?
12. How often?
13. Do you play videogames?
14. How often?
15. Do you use virtual worlds like Second Life, Active Worlds, Home, etc.?
16. How often?
17. Before doing this project, had you ever used Second Life?

All your answers will be kept in strict confidentiality. Thank you!

Annex no. 2 Open-ended questionnaire

Please answer the following questions **at length**.

1. How did you feel speaking Spanish in Second Life today?
2. How did you feel about not being physically present in the language exchange? Did this have any impact on how nervous/ confident you felt speaking Spanish?
3. How did you feel today about making mistakes?

All your answers will be kept in strict confidentiality. Thank you!